

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket: SAKAI16

In re Application of:	)	Confirmation No.:
Takeshi SAKAI	)	
	)	Art Unit:
	)	
Appln. No.: PCT/JP03/00334	)	Examiner:
	)	
Filed: July 7, 2004	)	Washington, D.C.
	)	
For: SULFATED FUCAN	)	September 27, 2004

## INFORMATION DISCLOSURE STATEMENT [IDS]

Honorable Commissioner for Patents  
 U.S. Patent and Trademark Office  
 2011 South Clark Place  
 Customer Window, Mail Stop  
 Crystal Plaza Two, Lobby, Room 1B03  
 Arlington, Virginia 22202

Sir :

This Information Disclosure Statement is submitted in accordance with 37 CFR §§1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

1. This IDS should be considered, in accordance with 37 CFR §1.97, as it is filed:

[X] A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application.

2. In accordance with 37 CFR §1.98, this IDS includes a list (e.g., Form PTO/SB/08A) of all patents,

publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. A copy of each document listed is attached, except as explained below.

[X] A. Documents AA-AE are U.S. patent(s) and/or published application(s). As this is a U.S. application filed after June 30, 2003, or an entry into national stage under 35 U.S.C. §371 after June 30, 2003, the requirement to file copies of such U.S. patents or published applications has been waived. (MPEP §609IIIA(2) (A)).

[X] B. Documents AF-AI and AJ are deemed substantially cumulative to documents AB-AE and AL, and, in accordance with §1.98(c), only a copy of each of the latter documents is enclosed except for AB-AE as they are US patents or published applications and the requirement to file copies has been waived (see paragraph 2.A.).

3. Documents AN, AO, AP, and AQ are not in the English language. In accordance with §1.98(c), Applicant(s) states:

[X] A concise explanation of the relevance of document(s) AN, AO, AP, and AQ is found in the attached International search report (see reply to Comment 68 in the preamble to the final rules; 1135 OG 13 at 20).

4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).

5. Other information being provided for the examiner's consideration follows:

*International Search Report*

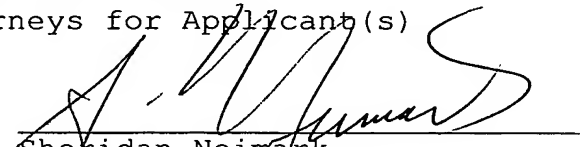
6. In accordance with 37 CFR §§1.97(g) and (h), the filing of this IDS should not be construed as a representation

that a search has been made or that information cited is, or is considered to be, material to patentability as defined in §1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant(s) reserves the right to prove that the date of publication is in fact different.

Respectfully submitted,

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 1

**Complete if Known**

Application Number	PCT/JP03/00334
Filing Date	July 7, 2004
First Named Inventor	Takeshi SAKAI
Group Art Unit	
Examiner Name	
Attorney Docket Number	SAKAI16

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	US-5,321,133	06-14-1994	COLLIEC et al	
	AB	US-6,054,577	04-25-2000	SAKAI et al	
	AC	US-6,207,652	03-27-2001	SAKAI et al	
	AD	US-6,590,097	07-08-2003	SAKAI et al	
	AE	US-2003/0176395	09-18-2003	SAKAI et al	
		US-			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	AF	WO 96/34004	10-31-1996	NAKANISHI YOSHIKUNI et al		
	AG	WO 97/26896	07-31-1997	NAKANISHI YOSHIKUNI et al		
	AH	WO 99/41288	08-19-1999	KIMURA HITOMI et al		
	AI	WO 00/50464	08-31-2000	KIMURA HITOMI et al		
	AJ	WO 02/086116	10-31-2002	KIMURA HITOMI et al		
	AK	EP-1 277 834 A1	01-22-2003	SAKAI, TAKESHI et al		
	AL	EP-1 380 641	01-14-2004	SAKAI, TAKESHI et al		

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
	AM	CHEVOLOT, L. et al., "A disaccharide repeat unit is the major structure in fucoidans from two species of brown algae" Carbohydrate Research 330 (2001) pp:529-535	
	AN	KIMURA, H. et al., Japanese Society for Marine Biotechnology Taikai Koen Yoshishu, 2002, Vol. 6, page 105	
	AO	SAKAI, T. et al., "Two novel enzymes from a sea bacterium, $\alpha$ -D-glucuronidase and endo- $\alpha$ -L-fucosidase and their use for the analysis of the structure of fucoidan (sulfated glucuronofucan) from Cladosiphon okamuranus" Abstracts of XX1st Japanese Carbohydrate Symposium, July 27-29, 2000, Nagoya p 64	
	AP	SAKAI, T. et al., "Novel enzyme, fucoidan deacetylase, and the pathway of enzymatic degradation of fucoidan from Cladosiphon okamuranus" Abstracts of XXIInd Japanese Carbohydrate Symposium, July 16-18, 2001, Shizuoka p 42	
	AQ	SAKAI, T. et al., "Structures and biological activities of marine algal fucoidans and their oligosaccharides" Bioscience & Industry, 2002, Vol. 60., No, pp:377-380	

Examiner  
SignatureDate  
Considered

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.